

Review #15

1. Given the functions $h(x) = 4x + 6$ and $j(x) = |2x|$, what value of x makes $h(x) = j(x)$?
2. A company that manufactures remote control cars first pays a start-up cost, and then spends a certain amount of money to manufacture each car. The cost of manufacturing d radios is given by the function $c(d) = 7.35r + 375$. What is represented by the 7.35 and the 375?
3. Based on the graph, over what approximate interval is the profit increasing?



4. The equation $A = 400(0.94)^7$ is being used to calculate the amount of money in a savings account. What does 0.94 represent in this equation?
5. Solve the inequality below to determine and state the largest possible value for x in the solution set.

$$2x + 5 \leq x - 3$$

6.
$$\frac{6^2 \cdot 4^5 \cdot 4^3 \cdot 6^4}{6^3 \cdot 4^7}$$

7. Solve this system of equations using the elimination method.

$$5x + 4y = -30$$

$$3x - 9y = -18$$

8. Describe the functions shown in the tables.

a.

X	Y
-4	15
-2	10
0	5
2	0
4	-5

b.

X	Y
-2	4
-1	8
0	16
1	32
2	64

9. Create a table of values for the function $y = x^2 - 3x + 4$?

10. Is the sum of π and $7\frac{1}{2}$ rational or irrational? Explain your answer.

11. John is a sprinter who can run the 50-yard dash in 7.25 seconds. Convert his speed into miles per hour.

12. Subtract $3x^2 + 5x - 1$ from $3x^2 + 5x + 1$. Express the result as a trinomial.

13. Jonah is going to the store to buy candles. Small candles cost \$3.50 and large candles cost \$5.00. He needs to buy at least 20 candles, and he cannot spend more than \$80. Write a system of linear inequalities that represent the situation.

14. Tevye has a Netflix Gift Card worth \$75. After the first month, the card's value is \$69.50. After the second month, its value is \$64 and after the third month the card is worth \$58.50.

Assuming the pattern continues, write an equation to define $A(m)$, the amount of money on the card after m months.

Tevye will keep his Netflix membership only as long as his card will pay for it. How many months will Tevye have a Netflix membership? Explain how you arrived at your answer.

15. Graph the following systems of inequalities, label the solution set S and state one point that lies in the solution set.

$$-3y < 6x - 12$$

$$y - x \leq 7$$

16. Graph the system:

$$y + x \leq 2$$

$$y \geq 3x - 2$$